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EXAMINER

ARCOS, CAROLINE H

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2195

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/506,427	Applicant(s) TANAKA ET AL.	
	Examiner CAROLINE ARCOS	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 13-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/02/2004, 4/28/2005 and 05/08/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-36 are pending for examination. Claims 6-12 and 30-36 have not been treated on the merits due to the improper multiple dependencies.

.Drawings

2. The drawings were received on 03/14/2005. These drawings are replacement of the drawing filed on 09/02/2004.

Claim Objections

3. Claims 6-12 and 30-36 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims 6-12 and 30-36 have not been further treated on the merits.

Claim Rejections – 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-5 and 25-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6. As per claims 1-5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to system claims, but appearing to be comprised of software alone without claiming

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associated computer hardware required for execution. For example, claim 1 recited means for sharing operating information, means for pointing an optimization of An execution , means for forecasting and execution completed date and means for assigning the job execution, which are all software modules/functions. Software alone is directed to a non-statutory subject matter.

7. As per claims 25-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a program which is a software per se, as it is not embodied on any sort of physical hardware.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-5 and 13-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lacks antecedent basis:

- i. The given job- claim 1.
- ii. The unit cost, the charge- claims 19 and 20.
- iii. The charge - claim 21, claim 23 and claim 24.
- iv. The execution time predicted value- claim 29.

b. The claim language in the following claims is not clearly understood:

- i. As per claim 1, Line 7, it is not clearly understood how the forecasting of the completed execution data is done and what are the criteria of forecasting the execution completed date? (i.e. job urgency or computer load). It is unclear whether “the given job” is the same as “a job” referred in line 5 (i.e. if it is the same job, the naming has to be consistent). Lines 8-9, it is not clearly understood what is the criteria of forecasting again the execution completed date and what are the criteria for altering the completed date based in response to the forecasted result? (i.e. forecasted result doesn't meet the execution term?) Line 10, it is unclear what is the criteria for assigning the job to other computer system? (i.e. the job doesn't meet the execution term? And it is unclear whether the job execution is assigned to other computer system in all times even in case the forecasted result meets the execution term?)
- ii. As per claim 2, lines 2-3 it is unclear whether “the job” referred in line 3 is the same as “the job” referred in line 2 or different jobs? Line 5, it is unclear which job is waiting on what job?
- iii. As per claim 14, it has the same deficiency as claim 2.
- iv. As per claim 26, it has the same deficiency as claim 2.
- v. As per claim 3, Line 2, it is unclear how the jobs are considered similar? In what aspect the jobs are similar? (i.e. same type of operation or same execution term?) Line 3, it is unclear whether “the job” is the same as “the given job” referred in line 2 or different job? (i.e. if it is the same job, it is preferred to be consistent with the naming)

- vi. As per claim 15, it has the same deficiency as claim 3.
- vii. As per claim 27, it has the same deficiency as claim 3.
- viii. As per claim 5, line 3, it is unclear whether “the job” is the same as “the given job” referred in line 2 or different job?(i.e. if it is the same job, it is preferred to be consistent with the naming).
- ix. As per claim 17, it has the same deficiency as claim 5
- x. As per claim 29, it has the same deficiency as claim 5.
- xi. As per claim 13, line 4, it is not clearly understood whether “a job” is the same as “a job” referred in line 3. (i.e. if it is the same job, it should be referred to as said job). Line 5, it is unclear whether “the given job” is the same as “a job” referred in line 4. (i.e. if it is the same job, it is preferred to be consistent with the naming) Line 6, it is uncertain whether “an execution priority” is the same as “ an execution priority” referred in line 4.(i.e. if it is the same execution priority, it should be referred to as said execution priority). Lines 6-7, what are the criteria in the forecasted result that cause altering the execution priority? Lines 10-11, it is unclear what is the criteria for assigning the job to other computer system? (i.e. the job doesn’t meet the execution term? And it is unclear whether the job execution is assigned to other computer system in all times even in case the forecasted result meets the execution term?)
- xii. As per claim 18, line 3, it is unclear what is meant by "altered degree"? (i.e. is it altered threshold).

xiii. As per claim 21, line 5, it is not clearly understood whether “the job” that the execution priority is pulled up is the same as “the job” whose execution priority was pulled down, referred in line 3?

xiv. As per claim 22, line 4, it is unclear what is meant by “a prediction to an effect”? Lines 5-6, it is unclear how the execution priority is not altered since the claim is dependent on claim 13 and claim 13 alter execution priority of the given job.

xv. As per claim 24, line 5, it is uncertain what is meant by “not derived?” (i.e. from what is not derived?)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 5, 13, 17, 22-23, 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,578,064).

12. As per claim 1, Saito teaches the invention as claimed including a distributed processing system including a plurality of computer systems, comprising:

a means for sharing respective operating information of the computer systems (Col.7,

lines 35-50; col. 40, lines 2-4);

a means for pointing an optimization of an execution priority of a job given to one of the computer systems and an execution term (col.5, lines10-14; col. 5, lines 26-55) ;

a means for forecasting an execution completed date of the given job and forecasting again the execution completed date of the job in the execution priority that is altered in response to a forecasted result (col. 5, lines 15-19; col. 5, lines 58-62; col. 36, lines 51-60).

13. Saito doesn't explicitly teach a means for assigning the job execution to other computer systems that share the operating information in response to the forecasted result (355, fig.33; col. 39, lines 45-65; col. 40, lines 8-20).

14. It would have been obvious to one of ordinary skill in the art to conclude from Saito's teaching of migrating the job to other computer system to maintain an equal distributed computers system by using the performance and load measure in deciding the migration is assigning the job to others computer system in response of the forecasted result as claimed. The forecasted result is the performance/load measures result which improves the load balance of the system and system performance.

15. As per claim 5, Saito teaches a means for inputting an execution time predicted value of the given job; and wherein the means for forecasting the execution completed date of the job forecasts the execution completed date of the given job by referring the execution time predicted

value (col.5, lines 10-19; col. 8, lines 12-15; col. 8, lines 21-25).

16. As per claim 13, Saito teaches a job distributed processing method using a plurality of computer systems that share operating information mutually (Col.7, lines 35-50; col. 40, lines 2-4) comprising:

- a step of giving a job to one of the computer systems by pointing an optimization of an execution priority of a job and an execution term (col.5, lines 10-14; col. 5, lines 26-55);

- a step of forecasting an execution completed date of the given job (col. 5, lines 10-14);

- a step of altering an execution priority of the job in response to a forecasted result (col. 5, lines 15-19).;

- a step of forecasting the execution completed date of the job after execution priority of the job is altered (col. 5, lines 58-62; col. 36, lines 51-60); and

17. Saito doesn't explicitly teach a step of assigning the job execution to other computer systems that share the operating information in response to the forecasted result (355, fig.33; col. 39, lines 45-65; col. 40, lines 8-20).

18. It would have been obvious to one of ordinary skill in the art to conclude from Saito's teaching of migrating the job to other computer system to maintain an equal distributed computers system by using the performance and load measure in deciding the migration is assigning the job to others computer system in response of the forecasted result as claimed. The forecasted result is the performance/load measures result which improves the load balance of the

system and system performance.

19. As per claim 17, Saito teaches a step of inputting an execution time predicted value of the given job by a user; and a step of forecasting the execution completed date of the given job by referring the execution time predicted value(col.5, lines 10-19; col. 8, lines 12-15; col. 8, lines 21-25).

20. As per claim 22, Saito teaches a step of forecasting the execution completed date obtained when the job is executed by other computer systems by referring the operating information when a prediction to an effect that the job is completed within the pointed execution term is not derived by altering the execution priority of the given job (355, fig. 33; col. 5, lines 10-14; col. 41, lines 32-41; col. 41, lines 60-65).

21. As per claim 23, Saito doesn't explicitly teach a step of executing an accounting process by referring the operating information with regard to the charge for using the computer decided by other computer systems when the job given to one computer system is executed by the other computer systems.

22. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to conclude from Saito's teaching of charging the computer depending on the amount of jobs that he charge for using the computer decided by other computer systems when the job given to one computer system is executed by the other computer systems would

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improve system accounting accuracy since the charged computer is the one performing /
executing the job .

23. As per claim 25, Saito teaches a program for selecting an optimum computer from a plurality of computer systems to cause the computer to execute a given job, for causing a computer to function as

a means for sharing respective operating information of the computer systems(Col.7, lines 35-50; col. 40, lines 2-4),

a means for forecasting an execution completed date of the given job by pointing an optimization of an execution priority and an execution term, and forecasting again the execution completed date of the job in the execution priority that is altered in response to a forecasted result(col.5, lines 10-19; col. 5, lines 26-55; col. 5, lines 58-62; col. 36, lines 51-60) .

24. Saito doesn't explicitly teach a means for assigning the job execution to other computer systems that share the operating information in response to the forecasted result (355, fig.33; col. 39, lines 45-65; col. 40, lines 8-20).

25. It would have been obvious to one of ordinary skill in the art to conclude from Saito's teaching of migrating the job to other computer system to maintain an equal distributed computers system by using the performance and load measure in deciding the migration is assigning the job to others computer system in response of the forecasted result as claimed. The forecasted result is the performance/load measures result which improves the load balance of the

system and system performance.

26. As per claim 29, Saito teaches the causing the computer to function as a means for forecasting the execution completed date of the given job by referring the execution time predicted value(col.5, lines 10-19; col. 8, lines 12-15; col. 8, lines 21-25).

27. Claims 2, 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,578,064), in view of Hiroswawa et al. (US 5,465,354).

28. Hiroswawa et al. (US 5,465,354) was submitted by the applicant IDS on 4/28/2005.

29. As per claim 2, Saito doesn't explicitly teach the means for forecasting an execution completed date of the job executes a forecast based on forecasted results by a means for forecasting the job executed now and a means for forecasting a time required until a wait-for-execution job is completed.

30. However, Hiroswawa teach the means for forecasting an execution completed date of the job executes a forecast based on forecasted results by a means for forecasting the job executed now and a means for forecasting a time required until a wait-for-execution job is completed (col. 2, lines 25-30; col. 2, lines 53-67).

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31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Hirosawa because Hirosawa teaching of calculating the wait time for execution of job completion would improve system performance by taking into account the fluctuation of the workload in the prediction of job execution.

32. As per claims 14, it is the method claims of the system claims 2. Therefore it is rejected under the same rational.

33. As per claim 26, it is the program claim of the system claim 2. Therefore, it is rejected under the same rational.

34. Claims 3-4, 15-16 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,578,064), in view of Kanagawa et al (EP 1170663 A2).

35. Kanagawa et al (EP 1170663 A2) was submitted by the applicant IDS on 4/28/2005.

36. As per claim 3, Saito doesn't explicitly teach a means for selecting similar jobs to the given job from execution history data; and wherein the execution completed date of the job is forecasted by referring the execution history data of the selected similar job.

37. However, Kanagawa teaches a means for selecting similar jobs to the given job from execution history data; and wherein the execution completed date of the job is forecasted by

referring the execution history data of the selected similar job (par. [0011]; par. [0016], lines 5-12; par. [0017], lines 6-8).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Kanagawa because Kanagawa's teaching of selecting similar jobs to forecast the execution completed date of the job based on the history data of the selected job would improve system performance and give more educated and more closely prediction for job execution based on resource used of the similar jobs which protect system resource usage from over estimating or under estimating execution time.

39. As per claim 4, Saito doesn't explicitly teach the means for forecasting the execution completed date of the job forecasts the execution completed date of the given job by referring the execution history data of the pointed similar job when a user points the similar job which is similar to the given job and whose execution is completed in a past.

40. However, Kanagawa teaches the means for forecasting the execution completed date of the job forecasts the execution completed date of the given job by referring the execution history data of the pointed similar job when a user points the similar job which is similar to the given job and whose execution is completed in a past (par. [0011]; par. [0016], lines 5-12; par. [0017], lines 6-8).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Kanagawa because Kanagawa's teaching of selecting similar jobs to forecast the execution completed date of the job based on the history data of the selected job would improve system performance and give more educated and more closely prediction for job execution based on resource used of the similar jobs which protect system resource usage from over estimating or under estimating execution time.

42. As per claim 15, Saito doesn't explicitly teach a step of selecting similar jobs to the given job from execution history data; and

a step of forecasting the execution completed date of the job by referring the execution history data of the selected similar job.

43. However, Kanagawa teaches a step of selecting similar jobs to the given job from execution history data (par. [0011]); and

a step of forecasting the execution completed date of the job by referring the execution history data of the selected similar job (par. [0016], lines 5-12; par. [0017], lines 6-8).

44. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Kanagawa because Kanagawa's teaching of selecting similar jobs to forecast the execution completed date of the job based on the history data of the selected job would improve system performance and give more educated and more closely prediction for job execution based on resource used of the similar jobs which protect system resource usage

from over estimating or under estimating execution time.

45. As per claim 16, Saito doesn't explicitly teach a step of pointing the similar job which is similar to the given job and whose execution is completed in a past by a user; and

a step of forecasting the execution completed date of the given job by referring the execution history data of the pointed similar job.

46. However, Kanagawa teaches a step of pointing the similar job which is similar to the given job and whose execution is completed in a past by a user (par. [0011]; par. [0016], lines 5-12); and

a step of forecasting the execution completed date of the given job by referring the execution history data of the pointed similar job (par. [0017], lines 6-8).

47. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Kanagawa because Kanagawa's teaching of selecting similar jobs to forecast the execution completed date of the job based on the history data of the selected job would improve system performance and give more educated and more closely prediction for job execution based on resource used of the similar jobs which protect system resource usage from over estimating or under estimating execution time.

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48. As per claims 27-28, they are the program claim of the system claims 3-4. Therefore, they are rejected under the same rationale.

49. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,578,064), in view of Katsuhide et al. (JP 2001-318776).

50. JP 2001-318776 was submitted by the applicant IDS on 09/02/2004.

51. As per claim 18, Saito doesn't explicitly teach a step of adjusting a unit cost of time in a charge for using the computer for the job in response to an altered degree of the execution priority of the job.

52. However, Katsuhide teaches a step of adjusting a unit cost of time in a charge for using the computer for the job in response to an altered degree of the execution priority of the job (par. [0009]).

53. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Katsuhide because Katsuhide teaching of adjusting a unit cost of charge would improve system performance and regulate job execution by charging for every job and fairness of the amount of accounting between jobs who adjust their priority.

54. As per claim 19, Saito doesn't explicitly a step of increases the unit cost of time in the charge for using the computer for the job when the execution priority of the job is pulled up.

55. However, Katsuhide teaches step of increases the unit cost of time in the charge for using the computer for the job when the execution priority of the job is pulled up.

56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Katsuhide because Katsuhide teaching of adjusting a unit cost of charge would improve system performance and regulate job execution by charging for every job and fairness of the amount of accounting between jobs who adjust their priority.

57. As per claim 20, Saito doesn't explicitly a step of lowering the unit cost of time in the charge for using the computer for the job whose execution priority is pulled down when the execution priority of other job is pulled down to pull up the execution priority of the given job.

58. However, Katsuhide teaches a step of lowering the unit cost of time in the charge for using the computer for the job whose execution priority is pulled down when the execution priority of other job is pulled down to pull up the execution priority of the given job.

59. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Katsuhide because Katsuhide teaching of adjusting a unit cost of charge would improve system performance and regulate job execution by charging for every job

and fairness of the amount of accounting between jobs who adjust their priority.

60. As per claim 21, Saito doesn't explicitly a step of deciding the charge for using the computer to cancel out a decreased amount of the charge for using the computer for the job whose execution priority is pulled down and an increased amount the charge for using the computer for the job whose execution priority is pulled up.

61. However, Katsuhide teaches a step of deciding the charge for using the computer to cancel out a decreased amount of the charge for using the computer for the job whose execution priority is pulled down and an increased amount the charge for using the computer for the job whose execution priority is pulled up.

62. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Katsuhide because Katsuhide teaching of adjusting a unit cost of charge would improve system performance and regulate job execution by charging for every job and fairness of the amount of accounting between jobs who adjust their priority.

63. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,578,064), in view of Masahiko et al. (JP 07-244653).

64. Masahiko et al. (JP 07-244653) was submitted by the applicant IDS on 09/02/2004.

65. As per claim 24, Saito doesn't explicitly teach a step of offering a forecasted result of a shortest completed date of the job and a unit cost of time in the charge for using the computer corresponding to the forecasted result when a prediction to an effect that the given job is completed within the pointed execution term is not derived.

66. However, Masahiko teaches a step of offering a forecasted result of a shortest completed date of the job and a unit cost of time in the charge for using the computer corresponding to the forecasted result when a prediction to an effect that the given job is completed within the pointed execution term is not derived (par. [0009]).

67. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Saito and Masahiko because Masahiko's teaching of calculating a unit cost of time in the charge for using the computer corresponding to the forecasted result when a prediction to an effect that the given job is completed within the pointed execution term is not derived would improve system performance by setting the cost for the shortest completed date, the system will have the result to be used with similar jobs.

Conclusion

68. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 20060235732 A1) teaches Accelerated process improvement framework.

(US 6338055 B1) teaches Real-time query optimization in a decision support system.

(US 5361362 A) teaches Adaptive job scheduling for multiprocessing systems with master and slave processors executing tasks with opposite anticipated execution times respectively.

69. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAROLINE ARCOS whose telephone number is (571)270-3151. The examiner can normally be reached on Monday-Thursday 7:00 AM to 5:30 PM.

70. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

71. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195